CLAIMS:

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1.   Method of transmitting data from a transmitter to a receiver, wherein the data is segmented into a plurality of first data packets for transmission, wherein the plurality of first data packets is provided with a transmission sequence number, wherein a retransmission for at least one second data packet of the plurality of first data packets

10   is performed in case the at least one second data packet was unsuccessfully decoded at the receiver, the method comprising the steps of: transmitting a third data packet from the transmitter to the receiver including information with respect to the at least one second data packet; and wherein the information relates to which of the at least one second data packet is at least partly sent again from the transmitter to the receiver.

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2.   The method of claim 1, wherein the receiver sends a negative acknowledge message to the transmitter for each of the at least one second data packets which was unsuccessfully decoded at the receiver; wherein the transmitter performs a retransmission for the at least one second data packet for which a negative

20   acknowledgement message was received; wherein the transmitter aborts retransmission for the respective at least one second data packet after a preset number of unsuccessful retransmissions; wherein the information indicates to the receiver at least one of a first fact and a second fact; wherein the first fact indicates for which of the at least one second data packet a negative acknowledgement message was received; and wherein the

25   second fact indicates for which of the at least one second data packet which retransmission has been aborted, a new transmission is scheduled.

3.   The method of clam 2, wherein the transmitter generates a list at the time of a generation of the information; wherein the list contains the at least one second data

30   packet and a priority information or a channel information with respect to this at least one second data packet; and wherein the list is sent as the information.

4.   The method of claim 1, wherein the information is sent in one of a fourth, fifth and sixth data packet; wherein the fourth data packet is scheduled next to be transmitted to the receiver; wherein the fifth third data packet is provided with a header; wherein the information is included in the header; wherein the sixth data packet does not include payload data and thus, has a short length and thus a very strong forward error correction.

5.   The method of claim 1, wherein, upon receipt of the information, the receiver purges in a reordering buffer all holes for seventh data packets of the plurality of first data packets for which no successful decoding has been performed except for the at least one second data packet indicated by the information.

6.   The method of claim 1, wherein the transmitter sends the information to the receiver in at least one of a first case, a second case and a third case; wherein, according to the first case, the information is sent from the transmitter to the receiver when the transmitter interrupts the transmission of the plurality of first data packets because of a transmission to another receiver; wherein, according to the second case, the information is sent from the transmitter to the receiver when the transmitter interrupts the transmission of the plurality of first data packets for a transmission of first data packets of higher priority to the same receiver; wherein, according to the third case, the information is sent from the transmitter to the receiver when the transmitter interrupts the transmission of the plurality of first data packets for more than a preset time.

7.   Data transmission system for transmitting data from a transmitter to a receiver, wherein the data is segmented into a plurality of first data packets for transmission, wherein the plurality of first data packets is provided with a transmission sequence number, wherein a retransmission for at least one second data packet of the plurality of first data packets is performed in case the at least one second data packet was unsuccessfully decoded at the receiver, the data transmission system comprising: a receiver; and a transmitter which is adapted for transmitting the data to the receiver;

wherein the transmitter is adapted for transmitting a third data packet from the transmitter to the receiver including information with respect to the at least one second data packet; and wherein the information relates to which of the at least one second data packet is at least partly sent again from the transmitter to the receiver.

8.   The data transmission system of claim 7, wherein the receiver is adapted to send a negative acknowledge message to the transmitter for each of the at least one second data packet which was unsuccessfully decoded at the receiver; wherein the transmitter is adapted to perform a retransmission for the at least one second data packet for which a negative acknowledgement message was received; wherein the transmitter is adapted to abort retransmission for the respective at least one second data packet after a preset number of unsuccessful retransmissions; and wherein the information indicates to the receiver at least one of a first fact and a second fact; wherein the first fact indicates for which of the at least one second data packet a negative acknowledgement message was received; and wherein the second fact indicates for which of the at least one second data packet which retransmission has been aborted, a new transmission is scheduled.

9.   The data transmission system of claim 7, wherein the information is sent in one of a fourth, fifth and sixth data packet wherein the fourth data packet is scheduled next to be transmitted to the receiver; wherein the fifth third data packet is provided with a header; wherein the information is included in the header; wherein the sixth data packet does not include payload data and thus, has a short length.

10.   Transmitter for transmitting data to a receiver, wherein the data is segmented into a plurality of first data packets for transmission, wherein the plurality of first data packets is provided with a transmission sequence number, wherein a retransmission for at least one second data packet of the plurality of first data packets is performed in case the at least one second data packet was unsuccessfully decoded at the receiver, wherein the transmitter is adapted to transmit a third data packet from the transmitter to the receiver including information with respect to the at least one second

data packet; wherein the information relates to which of the at least one second data packet is at least partly sent again from the transmitter to the receiver.

11.   The transmitter of claim 10, wherein the transmitter is adapted to perform a retransmission for the at least one second data packet for which a negative acknowledgement message was received; wherein the transmitter is adapted to abort retransmission for the respective at least one second data packet after a preset number of unsuccessful retransmissions; wherein the information indicates to the receiver at least one of a first fact and a second fact; wherein the first fact indicates for which of the at least one second data packet a negative acknowledgement message was received; and wherein the second fact indicates for which of the at least one second data packets which retransmission has been aborted, a new transmission is scheduled.

12.   The transmitter of claim 10, wherein the transmitter is adapted to generate a list at the time of a generation of the information; wherein the list contains the at least one second data packet and a priority information or a channel information with respect to this at least one second data packet; and wherein the list is sent as the information

13.   The transmitter of claim 10, wherein the transmitter is adapted to send the information in one of a fourth, fifth and sixth data packet; wherein the fourth data packet is scheduled next to be transmitted to the receiver; wherein the fifth third data packet is provided with a header; wherein the information is included in the header; wherein the sixth data packet does not include payload data and thus, has a short length.

14.   The transmitter of claim 10, wherein the transmitter is adapted to send the information to the receiver in at least one of a first case, a second case and a third case; wherein, according to the first case, the information is sent from the transmitter to the receiver when the transmitter interrupts the transmission of the plurality of first data packets because of a transmission to another receiver; wherein, according to the second case, the information is sent from the transmitter to the receiver when the transmitter

interrupts the transmission of the plurality of first data packets for a transmission of first
data packets of higher priority to another receiver; wherein, according to the third case,
the information is sent from the transmitter to the receiver when the transmitter
interrupts the transmission of the plurality of first data packets for more than a preset

5   time.

15.   Receiver for receiving data transmitted from a transmitter, wherein the
data is segmented into a plurality of first data packets for transmission, wherein the
plurality of first data packets is provided with a transmission sequence number, wherein

10   a retransmission for at least one second data packet of the plurality of first data packets
is performed in case the at least one second data packet was unsuccessfully decoded at
the receiver, wherein the receiver is adapted for receiving a third data packet from the
transmitter including information with respect to the at least one second data packet;
and wherein the information relates to which of the at least one second data packet is at

15   least partly sent again from the transmitter to the receiver.

16.   The receiver of claim 15, wherein the receiver sends a negative
acknowledge message to the transmitter for each of the at least one second data packets
which was unsuccessfully decoded at the receiver; wherein the information indicates to

20   the receiver at least one of a first fact and a second fact; wherein the first fact indicates
for which of the at least one second data packet a negative acknowledgement message
was received; and wherein the second fact indicates for which of the at least one second
data packet which retransmission has been aborted, a new transmission is scheduled.

25   17.   The receiver of claim 15, wherein the receiver is adapted to receive and
decode the information in one of a fourth, fifth and sixth data packet; wherein the fourth
data packet is scheduled next to be transmitted to the receiver; wherein the fifth third
data packet is provided with a header; wherein the information is included in the header;
wherein the sixth data packet does not include payload data and thus, has a short length.

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18.   The receiver of claim 15, wherein the receiver comprises a reordering buffer; and wherein the receiver is adapted to, upon receipt of the information, purge in the reordering buffer all holes for seventh data packets of the plurality of first data packets for which no successful decoding has been performed except for the at least one

5   second data packet indicated by the information.

19.   Software program for controlling a data transmission between a transmitter and a receiver,wherein the data is segmented into a plurality of first data packets for transmission, wherein the plurality of first data packets is provided with a

10   transmission sequence number, wherein a retransmission for at least one second data packet of the plurality of first data packets is performed in case the at least one second data packet was unsuccessfully decoded at the receiver, wherein the software program controls an operation of at least one of the transmitter and the receiver such that the following operation is performed: transmitting a third data packet from the transmitter

15   to the receiver including information with respect to the at least one second data packet; and wherein the information relates to which of the at least one second data packets is at least partly sent again from the transmitter to the receiver.